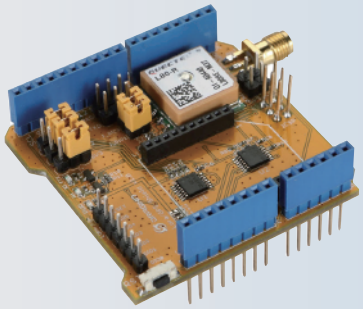
Long Range Wireless Transceiver for Arduino

Lora/GPS Shield



Lora/GPS mother board

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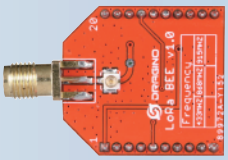

Lora BEE

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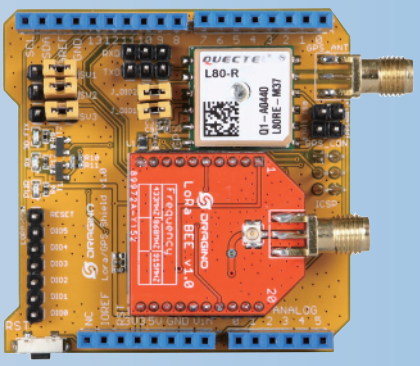

Lora/GPS Shield

OVERVIEW:

The Dragino Lora/GPS Shield is an expension board for LoRa™/GPS for using with the arduino.This product is intended for those interested in developing LoRa™/GPS solutions. The Lora/GPS Shield is composed of Lora/GPS Shield mother board and Lora BEE.

In the Lora part,the Lora/GPS Shield is based on the SX1276/SX1278 transceiver.The transceiver of the Lora/GPS Shield feature the LoRa™ long range modem that provides ultra-long range spread spectrum communication and high interference immunity whilst minimising current consumption. LoRa™ also provides significant advantages in both blocking and selectivity over conventional modulation techniques, solving the traditional design compromise between range,interference immunity and energy consumption.

In th GPS part,the add on L80 GPS (base on MTK MT3339) is designed for applications that require location or timing info. It connected to the arduino via serial port .

Features:

- Compatible with Arduino Leonardo,UNO,Mega2560,etc
- Frequency Band: one of 433/868/915 MHZ (Pre-configure in factory)
- Low power consumption
- FSK, GFSK, MSK, GMSK, LoRa™and OOK modulation
- Support DGPS, SBAS(WAAS/EGNOS/MSAS/GAGAN)
- GPS support short circuit protection and antenna detection
- Automatic RF Sense and CAD with ultra-fast AFC
- Baud rate configurable

Specification:

Lora Spec

- 168 dB maximum link budget
- +20 dBm - 100 mW constant RF output vs
- +14 dBm high efficiency PA
- Programmable bit rate up to 300 kbps
- High sensitivity: down to -148 dBm
- Bullet-proof front end: IIP3 = -12.5 dBm
- Excellent blocking immunity
- Low RX current of 10.3 mA, 200 nA register retention

GPS Spec

- Based on MT3339
- Compliant with GPS, SBAS
- Programmable bit rate up to 300 kbps
- Update rate:1Hz (Default), up to10Hz
- Protocols:NMEA 0183,PMTK
- Horizontal Position Accuracy <2.5 m CEP
- Timing Accuracy:1PPS out 10ns，Reacquisition Time <1s
- Velocity Accuracy Without aid <0.1m/s, Acceleration Accuracy Without aid 0.1m/s²

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